

ABSTRACT

A method and apparatus for encapsulating optoelectronic devices provides for accurately positioning and shaping an encapsulant by actively referencing the device die upon which the optoelectronic devices are formed. A molding tool is accurately aligned to the optoelectronic devices in the x, y and θ directions using mechanical guides and is aligned in the z direction by actively referencing the device die. The shaped encapsulant is preferably an angled wedge having a minimum thickness over the optoelectronic devices to provide a high coupling efficiency and an increased thickness in other portions to fully encapsulate wire bond connections, for example. The method also provides for using the mechanical guides to align and couple optical fibers to the optoelectronic devices. In one exemplary embodiment, the end face of the optical fiber forms a conterminous interface with the top surface of the encapsulant, and the interface is obliquely angled with respect to the surface of the device die.